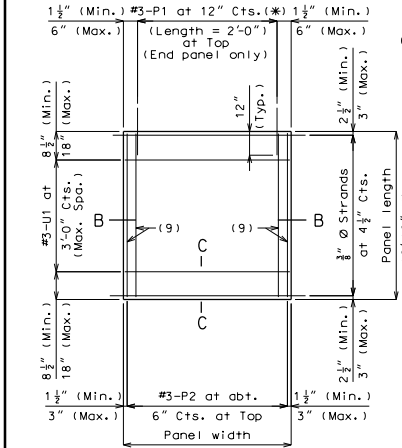
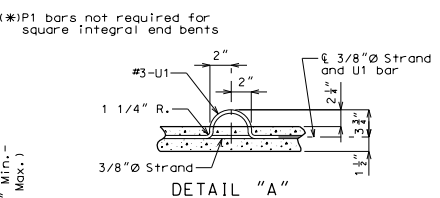


PLAN OF PRECAST PRESTRESSED PANELS PLACEMENT

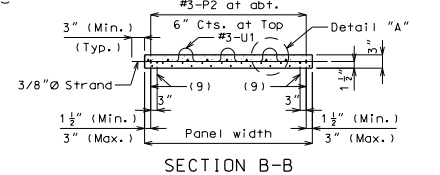


PLAN OF PRECAST PRESTRESSED PANEL



DETAIL "A"

Notes: Use slab haunching diagram on Sheet No. xx for determining thickness of preformed fiber expansion joint material or polystyrene bedding material within the limits noted in general notes.



SECTION B-B

The reinforcing steel shall be tied securely to the 3/8" strands with the following maximum spacing in each direction:  
 #3-P2 bars at 16 inches.  
 Welded wire fabric or welded deformed bar mats at 2'-0".

Tie the #3-U1 bars to the #3-P2 bars, to the welded wire fabric or the welded deformed bar mats at about 3'-0" centers.  
 All reinforcement other than prestressing strands shall be epoxy coated.

Precast panels will be in contact with stirrup reinforcing in diaphragms.  
 Cost of S-bars will be considered completely covered by the contract unit price for the slab.  
 S-bars are not listed in the bill of reinforcing.

(1) End panels shall be dimensioned 1/2" min. to 1-1/2" max. from the inside face of diaphragm.  
 (2) S-bars shown are bottom steel in slab between panels and used with squared end panels only.  
 (3) Extend S-bars 18 inches beyond the front face of end bents only.

(4) In order to maintain minimum slab thickness, it may be necessary to raise the grade uniformly throughout the structure. No payment will be made for additional labor or materials required for necessary grade adjustment.  
 (5) Any strand 2'-0" or shorter shall have a #4 reinforcing bar on each side of it, centered between strands. Strands 2'-0" or shorter may then be deboned at the fabricator's option.

(6) All panel support pads shall be glued to the girder. When support thickness exceeds 1 1/2 inches, the pads shall be glued top and bottom. The glue used shall be the type recommended by the panel support pads manufacturer.  
 (7) Use #3-P3 bars if panel is skewed 45° or greater.  
 (8) Minimum reinforcement steel length shall be 2'-0".  
 (9) #3-P2 bars near edge of panel at bottom (under strands).

(10) Hooks and bends shall be in accordance with the CRSI Manual of Standard Practices for Detailing Reinforced Concrete Structures. Stirrup and Tie Dimensions.  
 Actual lengths are measured along centerline of bar to the nearest inch.  
 The prestressed panel quantities are not included in the table of estimated quantities for slab.  
 If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

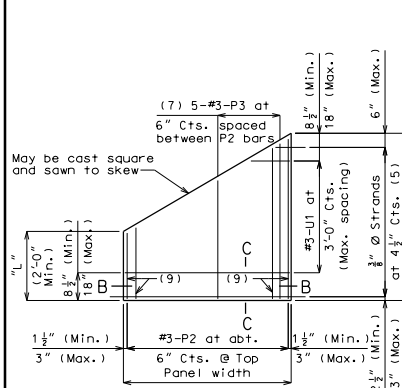
(11) Standard Drawing Guidance (do not show on plans):  
 ① Modify details if expansion gap is used.  
 ② Modify joint material thickness and width requirements in Section A-A and note for ModOT Bulb Tee (Types 7 & 8).

Minimum preformed fiber expansion joint material or polystyrene bedding material thickness shall be 1 inch. Thicker material may be used on one or both sides of the girder to reduce cost-in-place concrete thickness, to within tolerances. No more than 2 inches total thickness shall be used.

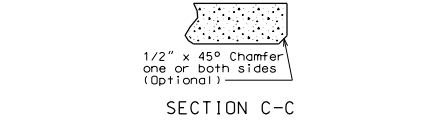
The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.  
 Slab thickness over prestressed panels varies due to girder camber.  
 At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.  
 Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

REINFORCING STEEL:  
 All dimensions are out to out.  
 Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

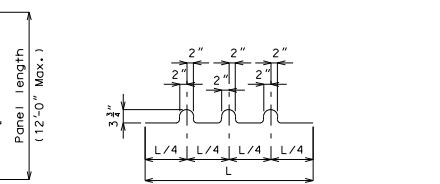
Hooks and bends shall be in accordance with the CRSI Manual of Standard Practices for Detailing Reinforced Concrete Structures. Stirrup and Tie Dimensions.  
 Actual lengths are measured along centerline of bar to the nearest inch.  
 The prestressed panel quantities are not included in the table of estimated quantities for slab.  
 If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.



PLAN OF PRECAST PRESTRESSED PANEL (SKEWED END-OPTIONAL)



SECTION C-C



BENDING DIAGRAM FOR U1 BAR

(U1 Bars may be oriented at right angles to location and spacing shown. U1 Bars shall be placed between P1 bars.)

Detailed Checked

DETAILS OF PRECAST PRESTRESSED PANELS

Note: This drawing is not to scale. Follow dimensions. Sheet No. of

GENERAL NOTES:  
**PRESTRESSED PANELS:**  
 Concrete for prestressed panels shall be Class A-1 with f'c = 6,000 psi; f'ci = 4,000 psi.

The top surface of all panels shall receive a scored finish with a depth of scoring of 1/8" perpendicular to the prestressing strands in the panels.

Prestressing tendons shall be high-tensile strength uncoated seven-wire, low-relaxation strands for prestressed concrete in accordance with AASHTO M 203 Grade 270, with nominal diameter of strand = 3/8" and nominal area = 0.085 sq. in. and minimum ultimate strength = 22.55 kips (270 ksi). Larger strands may be used with the same spacing and initial tension.

Initial prestressing force = 17.2 kips/strand.  
 The method and sequence of releasing the strands shall be shown on the shop drawings.

Suitable anchorage devices for lifting panels may be cast in panels, provided the devices are shown on the shop drawings and approved by the engineer. Panel lengths shall be determined by the contractor and shown on the shop drawings.

When squared end panels are used at skewed bents, the skewed portion shall be cast full depth. No separate payment will be made for additional concrete and reinforcing required.

Support from diaphragm forms is required under the optional skewed end until cast-in-place concrete has reached 3,000 psi compressive strength.

Minimum preformed fiber expansion joint material or polystyrene bedding material thickness shall be 1 inch. Thicker material may be used on one or both sides of the girder to reduce cost-in-place concrete thickness, to within tolerances. No more than 2 inches total thickness shall be used.

The same thickness of preformed fiber expansion joint material shall be used under any one edge of any panel except at locations where top flange thickness may be stepped. The maximum change in thickness between adjacent panels shall be 1/4 inch. The polystyrene bedding material may be cut with a transition to match haunch height above top of flange.

Slab thickness over prestressed panels varies due to girder camber.  
 At the contractor's option, the variation in slab thickness over prestressed panels may be eliminated or reduced by increasing and varying the girder top flange thickness. Dimensions shall be shown on the shop drawings.  
 Edges of panels shall be uniformly seated on the joint filler before slab reinforcement is placed.

REINFORCING STEEL:  
 All dimensions are out to out.  
 Minimum clearance to reinforcing steel shall be 1-1/2", unless otherwise shown.

Hooks and bends shall be in accordance with the CRSI Manual of Standard Practices for Detailing Reinforced Concrete Structures. Stirrup and Tie Dimensions.  
 Actual lengths are measured along centerline of bar to the nearest inch.

The prestressed panel quantities are not included in the table of estimated quantities for slab.  
 If U1 bars interfere with placement of slab steel, U1 loops may be bent over, as necessary, to clear slab steel.

Standard Drawing Guidance (do not show on plans):  
 ① Modify details if expansion gap is used.  
 ② Modify joint material thickness and width requirements in Section A-A and note for ModOT Bulb Tee (Types 7 & 8).

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."

DATE PREPARED	1/24/2012
ROUTE	MO
DISTRICT	BR
COUNTY	
JOB NO.	
CONTRACT ID.	
BRIDGE NO.	SPN 2

DESCRIPTION	
DATE	

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION	
105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)	



DATE	
DESCRIPTION	